



PATENT

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Coville et al.

Application No.: 10/612,161

Confirmation No.: 4147

Filed: July 2, 2003

For: METHOD AND APPARATUS
USING VERTICAL MAGNETIC
STIRRING TO PRODUCE
TURBULENT AND CHAOTIC
MIXING IN VARIOUS STATES,
WITHOUT COMPROMISING
COMPONENTS

Group: 1723

Examiner: Tony Glen Soohoo

Our File: BDC-PT001.1

Date: October 19, 2004

COMMUNICATION RE NOTICE OF ALLOWANCE ISSUED IN ERROR

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

A Notice of Allowance dated October 4, 2004 was received for the above-referenced application. However, Applicant has not yet responded to the September 8, 2004 Office Action which was issued. Upon review of the October 4, 2004 Notice of Allowance, it was determined based upon the attached PTO-1449 form that this Notice of Allowance should have been issued for Application No. 10/612,191. Accordingly, it appears to have been issued in error in the above-referenced application and should be

Applicant: Coville et al.
Application No.: 10/612,161

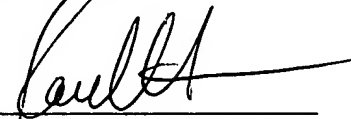
withdrawn and re-directed to the correct application. The original Notice of Allowance and attached documents are therefore being returned as an attachment to this communication for proper disposition and issuance by the United States Patent and Trademark Office to the correct Application.

Applicants are proceeding with a response to the September 8, 2004 Office Action in this case which will be submitted in due course prior to the December 8, 2004 deadline set in the Action.

Respectfully submitted,

Coville et al.

By



Randolph J. Huis
Registration No. 34,626
(215) 568-6400

Volpe and Koenig, P.C.
United Plaza, Suite 1600
30 South 17th Street
Philadelphia, PA 19103

RJH/rw
Attachment

93



IFNR

PTO/SB/21 (09-04)

Approved for use through 07/31/2006.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/612,161
Filing Date	July 2, 2003
First Named Inventor	Coville et al.
Art Unit	1723
Examiner Name	Tony Glen Soohoo
Attorney Docket Number	BDC-PT001.1

ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	Communication Re Notice of Allowance Issued in Error and original Notice of Allowance and Fee (s) Due with attachments.
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	Remarks	

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	VOLPE AND KOENIG, P.C.		
Signature			
Printed name	Randolph J. Huis		
Date	October 19, 2004	Reg. No.	34,626

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Randolph J. Huis	Date	October 19, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE



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NOTICE OF ALLOWANCE AND FEE(S) DUE

3624 7590 10/04/2004

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AM/PM

VOLPE AND KOENIG, P.C.
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

OCT 11 2004

VOLPE & KOENIG, P.C.

EXAMINER

NGUYEN, TUAN T

ART UNIT

PAPER NUMBER

2824

DATE MAILED: 10/04/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,161	07/02/2003	William E. Coville	BDC-PT001.1	4147

TITLE OF INVENTION: METHOD AND APPARATUS FOR USING VERTICAL MAGNETIC STIRRING TO PRODUCE TURBULENT AND CHAOTIC MIXING
VARIOUS STATES, WITHOUT COMPROMISING COMPONENTS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$685	\$300	\$985	01/04/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHT THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPO PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THE STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
- B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee Transmittal and pay the PUBLICATION FEE (if required) and 1 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

DOCKETED FOR 11/4/05 Issue Fee

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**

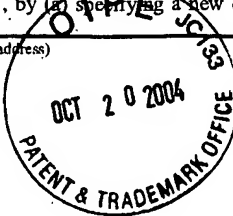
Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (703) 746-4000

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

3624 7590 10/04/2004

VOLPE AND KOENIG, P.C.
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103



Note: A certificate of mailing can only be used for domestic mailings of Fee(s) Transmittal. This certificate cannot be used for any other accompany papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,161	07/02/2003	William E. Coville	BDC-PT001.1	4147

TITLE OF INVENTION: METHOD AND APPARATUS FOR USING VERTICAL MAGNETIC STIRRING TO PRODUCE TURBULENT AND CHAOTIC MIXING VARIOUS STATES, WITHOUT COMPROMISING COMPONENTS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$685	\$300	\$985	01/04/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, TUAN T	2824	365-063000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are enclosed:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), or credit any overpayment Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above. NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other part interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 14 Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,161	07/02/2003	William E. Coville	BDC-PT001.1	4147

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OCT 11 2004

VOLPE & KOENIG, P.C.

EXAMINER

NGUYEN, TUAN T

ART UNIT

PAPER NUMBER

2824

DATE MAILED: 10/04/2004

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 6 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 6 day(s).

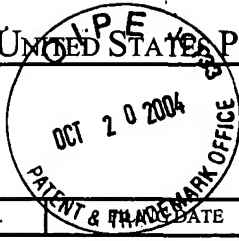
If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.



UNITED STATES PATENT AND TRADEMARK OFFICE



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APPLICATION NO.	FILED DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,161	07/02/2003	William E. Coville	BDC-PT001.1	4147
3624	7590	10/04/2004	EXAMINER	
VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			NGUYEN, TUAN T	
			ART UNIT	PAPER NUMBER
			2824	

DATE MAILED: 10/04/2004

Notice of Fee Increase on October 1, 2004

If a reply to a "Notice of Allowance and Fee(s) Due" is filed in the Office on or after October 1, 2004, then the amount due will be higher than that set forth in the "Notice of Allowance and Fee(s) Due" because some fees will increase effective October 1, 2004. See Revision of Patent Fees for Fiscal Year 2005; Final Rule, 69 Fed. Reg. 5260 52606 (May 10, 2004).

The current fee schedule is accessible from WEB site (<http://www.uspto.gov/main/howtofees.htm>).

If the fee paid is the amount shown on the "Notice of Allowance and Fee(s) Due" but not the correct amount in view of the fee increase, a "Notice of Pay Balance of Issue Fee" will be mailed to applicant. In order to avoid processing delays associated with mailing of a "Notice of Pay Balance of Issue Fee," if the response to the Notice of Allowance is to be filed on or after October 1, 2004 (or mailed with a certificate of mailing on or after October 1, 2004), the issue fee paid should be the fee that is required at the time the fee is paid. See Manual of Patent Examining Procedure (MPEP), Section 1306 (Eighth Edition, Rev. 2, May 2004). If the issue fee was previously paid, and the response to the "Notice of Allowance and Fee(s) Due" includes a request to apply a previously-paid issue fee to the issue fee now due, then the difference between the issue fee amount at the time the response is filed and the previously-paid issue fee should be paid. See MPEP Section 1308.01.

Effective October 1, 2004, 37 CFR 1.18 is amended by revising paragraphs (a) through (c) to read as set forth below

Section 1.18 Patent post allowance (including issue) fees.

- (a) Issue fee for issuing each original or reissue patent, except a design or plant patent:
 - By a small entity (Sec. 1.27(a))..... \$685.00
 - By other than a small entity..... \$1,370.00
- (b) Issue fee for issuing a design patent:
 - By a small entity (Sec. 1.27(a))..... \$245.00
 - By other than a small entity..... \$490.00
- (c) Issue fee for issuing a plant patent:
 - By a small entity (Sec. 1.27(a))..... \$330.00
 - By other than a small entity..... \$660.00

Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability



Application No.

10/612,161

Examiner

Tuan T. Nguyen

Applicant(s)

COVILLE ET AL

Art Unit

2824

AK

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.

2. ☒ The allowed claim(s) is/are 1-26.

3. ☒ The drawings filed on 01 July 2003 are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.

(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 2/23/04, 12/15/03

4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____.

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☒ Other Attachment A: Search History.

[Signature]

**RICHARD ELMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**

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OCT 11 2004
VOLPE & KOENIG, P.C.



DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 2/23/04 and 12/15/03 were filed after the mailing date of the present application. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

EXAMINER'S AMENDMENT

2. The application has been amended as follows:

Claim 1, line 8, change "conducting" to -- conductive --

Claim 2, line 1, change "RAM" to -- re-writable --

Claim 24, line 8, change "conducting" to -- conductive --

3. Claims 1-26 are allowed.

4. The following is an examiner's statement of reasons for allowance:

The prior art of record fail to disclose a re-writable memory comprising, in combination with other cited limitations, a plurality of memory cell arrays, each one defined in-between an x-direction conductive layer and a y-direction conductvie layer, each memory cell array being accessible for reading or writing through selection of an x-direction conductive layer operably connected to the memory cell array; and a y-direction conductive layer operably connected to the memory cell array; wherein the selection of only one conductive layer is not sufficient to access a memory cell array for either reading or writing as recited in claims 1-9.

The prior art of record also fail to disclose a re-writable memory comprising, in combination with other cited limitations, a plurality of driver sets that drive the conductive line

Art Unit: 2824

arrays, each driver set using a selection logic to drive the conductive line arrays, wherein at least two conductive line arrays are driven by the same selection logic; and a plurality of memory cell arrays, each memory cell array being in electrical contact with two conductive line arrays and requiring both of those conductive line arrays to be driven by their appropriate driver sets in order to access the memory cell array for reading and writing purposes, whereby a memory cell array cannot be read from or written to by a single conductive line array being driven as recited in claims 10-17.

The prior art of record further fail to disclose a re-writable memory comprising, in combination with other cited limitations, at least three x-direction conductive layers, each conductive layer being patterned to form conductive array lines in a first direction, wherein at least two x-direction conductive layers are driven by the same logic; at least two y-direction conductive layers, each conductive layer being patterned to form conductive array lines in a second direction orthogonal to the first direction; at least four memory cell arrays, each memory cell array being operably connected to one x-direction conductive layer and one y-direction conductive layer as recited in claims 18-23.

The prior art of record also fail to teach a re-writable memory comprising, in combination with other cited limitations, a plurality of memory cell arrays, each one defined in-between an x-direction conductive layer and a y-direction conductive layer, each memory cell array being accessible for reading or writing through selection of an x-direction conductive layer operably connected to the memory cell array; and a y-direction conductive layer operably connected to the memory cell array, wherein each memory cell is defined by at least a memory plug placed at or

Art Unit: 2824

near the intersection of one x-direction conductive array line and one y-direction conductive array line as recited in claims 24-26.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Nguyen whose telephone number is (571) 272-1880. The examiner can normally be reached on Mon-Thu-Mon-Fri.

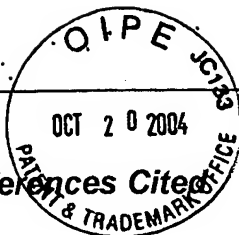
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 1, 2004



Tuan T. Nguyen
Patent Examiner
Art Unit 2824

**Notice of References Cited**

Application/Control No.

10/612,161

Applicant(s)/Patent Under

Reexamination
COVILLE ET AL.

Examiner

Tuan T. Nguyen

Art Unit

2824

Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,236,590 B1	05-2001	Bhattacharyya et al.	365/173
	B	US-6,483,736 B2	11-2002	Johnson et al.	365/130
	C	US-6,525,953 B1	02-2003	Johnson, Mark G.	365/63
	D	US-6,631,085 B2	10-2003	Kleveland et al.	365/175
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

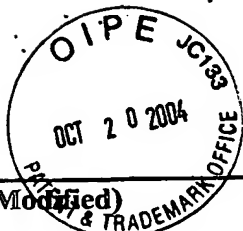
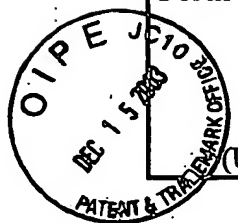
FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



Form 1449 (Modified) Information Disclosure Statement By Applicant (Use Several Sheets if Necessary)	Atty Docket No. UNTP009 Applicant: Rinerson et al. Filing Date July 1, 2003	Application No.: 10/612,191 Group 2818
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U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
Du	A	6,204,139	2001-03-20	Liu et al.			
	B	5,920,500	1999-07-06	Tehrani et al.			
	C	6,545,891	2003-04-08	Tringali et al.			
	D	6,504,753	2003-01-07	Scheuerlein et al.			
	E	6,483,736	2002-11-19	Johnson et al.			
	F	6,385,074	2002-05-07	Johnson et al.			
	G	6,351,406	2002-02-26	Johnson et al.			
	H	6,185,122	2001-02-06	Johnson et al.			
	I	6,034,882	2000-03-07	Johnson et al.			
	J	5,835,396	1998-11-10	Zhang			
	K	4,442,507	1994-04-10	Roesner			

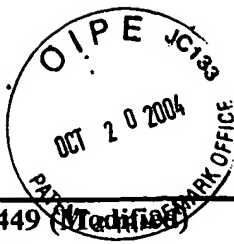
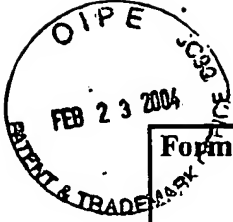
U.S. Published Patent Applications

Examiner Initial	No.	Document No.	Publication Date	Inventor
Du	J	2002/0000597 A1	01/03/02	Okazawa
Du	K	2001/0023992 A1	09/27/01	Doll

Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
Du	L	Beck, A. et al., "Reproducible switching effect in thin oxide films for memory applications", Applied Physics Letters, Vol. 77, No. 1, 3 July 2000, 139-141.
	M	Rossel, C. et al., "Electrical current distribution across a metal-insulator-metal structure during bistable switching", Journal of Applied Physics, Vol. 90, No. 6, 15 September 2001, 2892-2898.
h	N	Watanabe, Y. et al., "Current-driven insulator-conductor transition and nonvolatile memory in chromium-doped SrTiO ₃ single crystals", Applied Physics Letters, Vol. 78, No. 23, 4 June 2001, 3738-3740.
Examiner	Tuan T. Nguyen	
	Date Considered 10/1/04	

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form 1449 (Modified) Information Disclosure Statement By Applicant (Use Several Sheets if Necessary)	Atty Docket No. UNTYP009	Application No.: 10/612,191
	Applicant: Rinerson et al.	
	Filing Date July 1, 2003	Group 2818

Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
<i>Dr</i>	A	Liu, S.Q., et al., " <i>Electric-pulse-induced reversible resistance change effect in magnetoresistive films</i> ", Applied Physics Letters, Vol. 76, No. 19, 8 May 2000, 2749-2651.
<i>Dr</i>	B	Liu, S.Q., et al., " <i>A New Concept For Non-Volatile Memory: Electric-Pulse Induced Reversible Resistance Change Effect In Magnetoresistive Films</i> ", Space Vacuum Epitaxy Center, University of Huston, Huston TX, 7 Pages.
Examiner <i>Tuan T. Nguyen</i>		Date Considered <i>10/1/04</i>

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ATTACHMENT A: SEARCH HISTORY

L Number	Hits	Search Text	DB	Time stamp
1	52343	"67" and intersect\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 07:13
2	0	((((memory and (x same direction) and (conductive same layer\$1) and (first same direction)) and (y same direction) and (second same direction)) and orthogonal) and (cell\$1 same array\$1)) and (select\$3 same layer)) and read\$3 and writ\$4) and 365/\$7.ccls. and intersect\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 07:14
3	38	((((memory and (x same direction) and (conductive same layer\$1) and (first same direction)) and (y same direction) and (second same direction)) and orthogonal) and (cell\$1 same array\$1)) and (select\$3 same layer)) and read\$3 and writ\$4) and 365/\$7.ccls. and intersect\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 07:15
-	2	("6753561").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 04:53
-	6	((("6456525") or ("6531371") or ("6634497")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 04:53
-	6	((("6456525") or ("6531371") or ("6634497")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 04:55
-	3103	memory and (x same direction) and (conductive same layer\$1) and (first same direction)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 04:56
-	2258	(memory and (x same direction) and (conductive same layer\$1) and (first same direction)) and (y same direction) and (second same direction)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 04:57
-	728	((memory and (x same direction) and (conductive same layer\$1) and (first same direction)) and (y same direction) and (second same direction)) and orthogonal	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 04:57
-	304	((memory and (x same direction) and (conductive same layer\$1) and (first same direction)) and (y same direction) and (second same direction)) and orthogonal) and (cell\$1 same array\$1)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 04:57
-	252	(((memory and (x same direction) and (conductive same layer\$1) and (first same direction)) and (y same direction) and (second same direction)) and orthogonal) and (cell\$1 same array\$1)) and (select\$3 same layer)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 04:58
-	162	((((memory and (x same direction) and (conductive same layer\$1) and (first same direction)) and (y same direction) and (second same direction)) and orthogonal) and (cell\$1 same array\$1)) and (select\$3 same layer)) and read\$3 and writ\$4	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 05:00



-	67	((((memory and (x same direction) and (conductive same layer\$1) and (first same direction)) and (y same direction) and (second same direction)) and orthogonal) and (cell\$1 same array\$1)) and (select\$3 same layer)) and read\$3 and writ\$4) and 365/\$7.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/10/01 07:13
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